Transport. Gen.

The Twentieth Century

TALK

at the

First Saturday Luncheon

of the

Harvard Club

of

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By

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THE TWENTIETH CENTURY

By HOWARD ELLIOTT

Chairman, Northern Pacific Railway Company

My good Harvard friends: A short time ago my namesake, our secretary, told me that the Harvard Club was to have luncheons on Saturdays, at which talks on subjects of general interest would be made. I think this plan of the Club is a good one. Mr. Elliott asked me to be the first speaker. I am complimented by the request and I thank you sincerely. In this busy world, it is rather difficult at times to get out of one's "rut." These luncheons should be helpful in arousing renewed interest in Harvard and all that it represents in the life of the nation.

Harvard has had and still has a great influence for good in the growth of the United States. It is nearly three hundred years since Harvard started. Since then what a marvelous development of the world and of the United States has been unfolded!

The nineteenth century has come and gone. The first quarter of the twentieth century is nearly behind us. We are at the close of an eventful year. It is well to look back a bit and also to look forward.

Wonderful Progress of United States.

A hundred years ago the population of the United States was only 9,638,453 and today it is over 107,000,000. There was then no "West" as we now know it; very little mechanical, chemical, electrical and metallurgical development; no gigantic manufacturing enterprises; no far-flung railroad systems. The national wealth was then less than $3,000,000,000 and today is over $300,000,000,000. Educational and charitable enterprises were few and struggling; all life was simple compared with today. The extraordinary industrial growth of the country began especially after the Civil War. A few figures showing the expansion since 1870 are interesting:

STATISTICS OF RECORD OF PROGRESS OF THE UNITED STATES—1870 AND 1920

ITEM	1870	1920	Ratio 1870:1920
Wealth	$30,068,518,000	*$300,000,000,000	1:10
Wealth per capita	779.83	*2,839	1: 3.6
Public debt, less cash in treasury (July 1)	2,331,169,956	24,330,889,731	1:10
Public debt, per capita	60.46	228.63	1: 3.8
Interest-bearing debt (July 1)	2,046,455,722	24,061,095,361	1:12
Annual interest charge**	118,784,960	1,016,592,219	1: 9
Interest per capita**	3.08	9.55	1: 3.1
Total money in circulation (July 1)	676,284,427	6,087,555,087	1: 9
Total money in circulation per capita (July 1)	17.51	57.21	1: 3.3
Total value farm animals	1,518,465,000	8,507,145,000	1: 5.6
PRODUCTION OF PRINCIPAL COMMODITIES			
Wool (pounds)**	162,000,000	308,507,000	1: 1.9
Wheat (bushels)**	235,884,700	787,128,000	1: 3.3
Corn (bushels)**	1,094,255,000	3,232,367,000	1: 3
Cotton (500 lb. bales gross weight)	4,024,527	12,987,000	1: 3.2
Rice (pounds)	54,888,880	a 1,491,944,444	1:27
Sugar (beet) pounds	b 806,000	1,452,902,000	1:1803
Sugar (cane) pounds	87,043,000	244,250,000	1: 2.8
Gold (dollars)**	50,000,000	b 49,509,400	1: 1
Silver (dollar-com. value)	16,434,000	57,420,325	1. 3.5
Aluminum (pounds)**	.....	41,375,000	.....
Cement (barrels)**	.....	96,944,000	.....
Coal (long tons)**	29,496,054	576,431,250	1:20
Copper (long tons)**	12,600	539,759	1:43
Lead (short tons)**	17,830	476,849	1:27
Mineral waters (gal. sold)**	.....	40,000,000	.....
Natural gas (dollars)	.....	(1919) 162,000,000	.....
Petroleum (gallons)**	220,951,290	18,622,884,000	1:84
Phosphate Rock (long tons marketed)	.....	4,103,982	.....
Iron Ore (long tons)**	3,031,891	69,558,000	1:23
Pig Iron (long tons)**	1,665,179	36,925,987	1:22
Steel (long tons)**	68,750	(1919) 34,671,232	1:504
Total minerals (dollars)**	218,598,994	6,707,000,000	1:31
MANUFACTURING INDUSTRIES OF UNITED STATES			
Cost of material used (1860)	$1,031,605,092	(1914) 14,368,088,831	1:14
Value of products "	1,885,861,676	" 24,246,434,724	1:13
Manufactures of cotton (value) "	115,681,774	" 701,300,933	1: 6.1
Manufactures of wool (value) "	73,454,000	" 464,249,813	1: 6.3
Mfrs. of silk (value) "	6,607,771	" 254,011,257	1:38
Total expenses public schools (1870)	63,396,666	(1918) 763,678,089	1:12

* Estimated. ** Calendar years.
a Figures include only about 45% of California crops. b Approximate.
Source—Statistical Abstract of the United States, 1920.

Population, transportation, other communication facilities, production, wealth and comforts have increased vastly. Schools, colleges, libraries, hospitals, attention to the sick and poor—all are now on a much larger and more constructive basis.

This nation is the leader of the world, yet we have but approximately 6% of the world's population.

We produce 43% of the world's coal and use 42%.
54% of the iron and use 53%.
64% of the steel and use 57%.
49% of the copper and use 44%.
64% of the petroleum and use 72%.
69% of the cotton and use 37%.
52% of the timber and use 51%.
41% of the shoes, and consume 39%.
43% of the print paper and use 50%.

We have 264,375 miles of railroad—35% of all in the world.

Sometimes I hear young men say that opportunities today are not so great as they were, before the developments of the last fifty years.

Let us consider that thought for a moment and compare certain large enterprises of the past with several now being considered for the future.

Vision and Enterprise Rewarded. There are two national enterprises which at their inception were considered by some more or less daring and possibly foolish.

Secretary Seward purchased from Russia in 1867 for $7,200,000 what is now the Territory of Alaska. Here is an empire of 590,884 square miles, nearly one-fifth the size of our United States. At the time of the purchase, demagogues and charlatans attacked Mr. Seward. They thought more of their own selfish plans for personal political advancement and had no vision of the great development of Alaska. Jefferson, by the Louisiana Purchase for $15,000,000 made possible the continental United States. The purchase of Alaska is second only to that in its territorial effect on our nation.

In 1920 the value of the fish from Alaska was $41,492,124. Gold was discovered there in 1880 and up to January, 1921, a total of $320,000,000 had been produced;

of copper $127,000,000 and of other metals $13,000,000, total $460,000,000. There are also very large deposits of good coal in Alaska. Grains, grasses, vegetables and reindeer are raised. Railroad development has been and is under way, as follows: 555 miles of Government railroad with 195.6 miles of the Copper River and Northwestern in operation. Within the next decade the tourist will visit the wonders and beauties of Alaska as freely as he now goes to Norway.

Another national project, the Panama Canal, was also achieved only after much political and some economic controversy. Up to date the investment in the canal is about $375,000,000 not counting interest. Its far-reaching influence on many phases of our national life is already felt and will continue. True, the canal is damaging some of the transcontinental railroads severely by tending to concentrate business on the Atlantic and Pacific coasts and thus drawing it away from the important Mississippi Valley.

But rates for freight via the Canal and those via the transcontinental railroads will be, in time, so adjusted that the great productive middle west will have a more equable opportunity to compete for the growing Pacific Coast and Oriental trade.

It is not a sound national policy to so adjust rates as to drive business out of the Middle West. Far better to have manufacturing in all sections of the country. If the Government continues to make the rates for freight carried by the railroads, it should also make them for the freight carried by ships through the Canal.

For the fiscal year ending June 30, 1923, 3,967 ships used the Canal, of which 1,065 were British and 1,994 United States; the remainder were from 18 other countries. These ships carried 19,567,875 tons of cargo, of which 4,929,317 tons were in British ships and 11,055,156 in United States ships, the remaining tonnage being carried by ships from other countries. The tolls paid were $4,736,221.04 by Great Britain, $9,473,819.65 by the United States, and the tolls paid by other countries brought the total up to $17,508,199.57. The expenses for the year were $7,690,777.56, leaving net revenue of ten million dollars, not counting interest.

From the opening of the Canal on August 15, 1914, to

June 30, 1920, the expenses of operation and maintenance, not including interest, were $36,657,767, while the total revenues were $34,426,675, leaving a deficit for the period of $2,231,092, not including any interest and taxes which however must be paid by the railroads competing with the Canal.

I mention these two national enterprises because they are now successful and important, but when conceived were considered by many somewhat visionary. Plans for large enterprises are now being discussed which some day will be completed and become important factors in our national life, for they will open up new opportunities for the present and coming generations. I mention a few of them.

The Super-Power System Between Boston and Washington. This system contemplates that within the proposed superpower zone all energy will be supplied for municipal, industrial and private consumers from a centralized network of power generating and distributing means. It is estimated that these requirements, exclusive of those of possible railway electrification, will have increased from a total of 10,000,000,000 kw. hours for the year 1919 to 26,000,000,000 kw. hours in the year 1930. Through the agency of a co-ordinated power system as proposed, this energy could be generated and delivered at an annual cost in 1930 of about $200,000,000 per year less than by separate systems such as now in use. This amount represents the net saving after paying fixed charges on the additional capital expenditure required.

These new capital expenditures would be about $700,000,000 ($693,218,000) so that a very important annual saving is shown which may be divided between the power producing and distributing companies, and the consumers.

In addition to the foregoing, the superpower scheme contemplates serving as a suitable power supply for railway electrification. There are 36,000 miles of railway track within the superpower zone of which it is estimated that 19,000 miles can be profitably electrified, so as to yield by 1930 an annual saving of $81,000,000 as compared with steam operation. It is estimated that the capital investment for such an electrification would be $570,000,000, upon which would be secured an operating saving varying from 10.6 per cent to 19 per cent, averaging 14.2 per cent. From

this, however, must be deducted fixed charges on the above capital expenditure.

This comprehensive power system is also an important means for conserving our national coal resources. It is estimated that by 1930 the coal saved annually under the superpower system would amount to about 50,000,000 tons, assuming the entire program is carried out. Of this total the savings are distributed as follows:

Electric utilities	19,149,000	tons
Manufacturing industries	20,675,000	"
Railway electrification	10,210,000	"

The figures may be too optimistic but the project is an important one for the country between Boston and New York, Buffalo and Washington, which will have a vastly increased population before the end of the twentieth century. President Coolidge mentioned this subject in his recent message to Congress.

The Great Lakes—St. Lawrence Sea-Way. This is a great project, national in its scope and influence. It is a plan for a ship canal, to be eventually 30 feet deep, between the lower St. Lawrence and Lake Ontario, in which the United States and Canada will have an equal interest. Incident to the building of the ship canal there is a proposed development of 1,460,000 horsepower, twice as much as is developed at Niagara. The estimated cost is $253,000,000 of which $150,000,000 is for power and $103,000,000 for the waterway. Some say that the estimated cost is too low, but the project will be beneficial to New England and to all the country tributary to the Great Lakes. It will relieve congestion on the railroads reaching the upper Atlantic ports when population and industry are twice what they are today. The project will help coast-wise trade, export and import trade between the middle western states and foreign countries and give great opportunity to our merchant marine fleet. The President, in his recent message, thought this project deserved the immediate attention of Congress.

Undeveloped Coal Supply. You have heard much about North Dakota lately, and Governor Nestos of that state made a brilliant speech at the recent dinner of the New York Chamber of Commerce. In his

remarks the Governor pointed out the unlimited supply of fuel which some day will be of great value in the development of that state. There are vast quantities of undeveloped coal in other states.

In Montana, just west of North Dakota, in one county alone, about the size of Connecticut, there are eight billion tons of coal. The Northern Pacific has in this county 10,000 acres with 331,000,000 tons of coal, 150,000,000 of which can be taken from open pit mines by steam shovels. That company is now arranging to open the first mine and is building thirty miles of railroad to reach it. This will give a supply of coal lasting from 50 to 100 years for all that part of the railroad between the Red River and the Rocky Mountains, more than 1,000 miles, either for steam engines or to be used for producing electric power.

Water Power. The total potential horsepower to be developed from water power in the United States is estimated at 54,000,000 of which 26,000,000 are in the states of Wyoming, Montana, Idaho, Oregon and Washington.

At Priest Rapids on the Columbia River in Washington, plans have been prepared for the development of 650,000 horsepower by an investment of $100,000,000.

The city of Seattle is now constructing a municipal power project on the Skagit River, a glacial stream from the Cascade Mountains, 125 miles from Seattle, that will ultimately produce 555,000 horsepower.

Columbia River Irrigation Another project now under consideration is that known as the Columbia River Basin Irrigation Project, in eastern Washington, which will water 1,750,000 acres of the most fertile land in the world by gravity flow from the Pend Oreille or upper Columbia River, at a cost of $250,000,000.

General Goethals says of this plan:

> "The Columbia Basin project is as much a national one as were the Panama Canal and the Alaskan Railway and will, after completion, add much more to the national wealth than either of the others mentioned."

The proposed use of this "White coal" now going to waste and the development of the enormous dormant supplies of fuel in the ground are only a part of the projects under consideration. The development of all this power will be of vast importance to our growing population and the success of the United States. These projects are not more daring or visionary than the buying of Alaska and building the Panama Canal.

When Jay Cooke was planning the Northern Pacific from Lake Superior to the Pacific Ocean from 1869 to 1873 he was laughed at and the empire he helped to open up was referred to sarcastically as Jay Cooke's Banana Belt! He lived to see his vision and faith justified. To-day the Northern Pacific—the pioneer line in the development of the Northwest—serves a populous territory producing nearly everything that man needs except perhaps bananas, oranges and rubber!—a property worth to-day on any fair basis of valuation more than $550,000,000, and it is only one of several trans-continental roads, the success of which is necessary to the whole country.

So young men will have their chance—they will have many, many opportunities to show their ability and industry.

Mother Shipton's Visions. In our more youthful days most of us read Mother Shipton's prophecies, visions, subconscious thoughts. Let me recall a few uttered along in 1550:

Over a wild and stormy sea
Shall a noble sail,
Who to find, will not fail,
A new and fair countree.

From whence he shall bring
A herb and a root
That all men will suit
And please both ploughman and king.

And let them take no more than measure.
Both shall have the even pleasure
In the belly and the brain.

Carriages without horses shall go,
And accidents fill the world with woe.

Primrose Hill in London shall be
And in its centre a Bishop's See.

Around the world thoughts shall fly
In the Twinkling of an eye.

Water shall yet more wonders do;
How strange, yet shall be true,
The world upside down shall be,
And gold found at the root of a tree.

Through hills men shall ride
And no horse or ass be by their side.

Under water, men shall walk,
Shall ride, shall sleep and talk.

In the air men shall be seen,
In white, in black, and in green.
Men shall walk over rivers and under rivers.
Iron in the water shall float,
As easy as a wooden boat.

Fire and water shall do more wonders,
England shall at last admit a Jew.
The Jew that was held in scorn,
Shall of a Christian be born and born.

War will follow with the work,
In the land of the Pagan and Turk.
And State and State in fierce strife
Will seek each other's life.
But when the North shall divide the South,
An eagle shall build in the lion's mouth.

All England's sons that plough the land
Shall be seen, book in hand;
Learning shall so ebb and flow
The poor shall most learning know.

The world then to an end will come,
In Eighteen Hundred and eighty-one.

Some of these visions have been realized. Sir Walter Raleigh visiting Virginia in 1595, tobacco and the potato came from there a few years later. Steam and electric railroads and motor vehicles have been developed beyond the dreams of the most sanguine. The telegraph, telephone, the radio are here and are almost commonplace, although some may remember the old "devil's fiddle" with which we played as boys, and the first telephone. Water has been used for steam and electricity and its great use for producing power in this country has only begun. It is true that in these days some think the world is more or less "upside down," but it is only a question of time before it rights itself. Gold was

found in California in 1847 by Captain Sutter at the foot of a tree. The diving suit, the diving bell and the submarine are in daily use. Aerial navigation is making rapid strides and will be, during this century, a factor in commercial and social life. Iron and steel ships have practically supplanted wooden ones.

We have had dreadful wars—Russian, Turkish, Balkan, United States, Japanese, and the recent Great War. Schools and colleges for all sorts and conditions of people have been provided. The world, however, did not come to an end in 1881. In fact it really began for me, as that was the year I received my degree from Harvard!

World Not Upside Down.

There are pessimists—disgruntled people—self-seeking politicians of small vision who say that the world is really "upside down"; that civilization is in bad shape and going backward; and declare we should cut loose from present methods, our Federal and state constitutions, standards of life, etc., which have encouraged and developed our marvelous growth. They say:

"Look at conditions in Europe."
"Look at the upheaval in Mexico."
"Look at the disturbed state of China."
"Look at the pathetic situation in Russia."
"What about the farmer?"
"What are you going to do about taxes and expenses of the Government?"
"What are you going to do about the railroads?"
"What are you going to do about the relations of Capital and Labor?"
"Look at the Socialists and Communists."
"Look at Congress."
"Look at the bootleggers!"

True, various conditions, situations and problems are complicated and disagreeable. They call for the attention of thoughtful, earnest men. My own feeling is that measured by the life of nations, and the fact that 99 per cent. of our people when aroused are conservative and law-abiding, these troubles and problems will be overcome in a shorter

time than the pessimists, the political "doctors" and trouble-makers, the parlor theorists and demagogues think. We will then march on to a higher and better state of human society with more constructive relations established between the nations of the world. I commend to some of these "doubting Thomases" this bit of doggerel which I read a few years ago:

My grandpa notes the world's worn cogs
And says we're going to the dogs.
His grand-dad in his house of logs,
Swore things were going to the dogs.
His dad among the Flemish bogs,
Vowed things were going to the dogs.
The caveman in his queer skin togs,
Said things were going to the dogs.
But this is what I wish to state—
The dogs have had an awful wait.

We are not going to the dogs, and I predict that the next twenty-five, fifty and seventy-five years will be the most wonderful period of the world and the most glorious in the progress and history of the United States.

The Railroads, the Farmers, Other Problems.

As many of you know I have always been in the railroad business. I have just returned from an extensive trip in the west and northwest, about 8,500 miles between New York and Puget Sound and the Pacific.

I feel that I can speak of some of the problems now confronting the railroads, the farmers and business men. In the first place, successful agriculture and adequate railroad service are essential. Both are suffering from heavy taxes and what heretofore have been called very high wages. The condition of the farmer is claiming attention, for in some ways it is serious, but as in nearly all serious situations there is exaggeration.

The wheat farmers—those who depend solely on that crop—are not in good shape in North Dakota, South Dakota, parts of Minnesota and Montana, and possibly in Kansas. In Idaho, Washington, and Oregon they are somewhat better off because they have had a good yield. But the wheat farmer is not the only farmer in the country.

The President deftly pointed this out in his recent message:

> "Looked at as a whole the nation is in the enjoyment of remarkable prosperity. Industry and Commerce are thriving. For the most part, agriculture is successful; eleven staples having risen in value from about $5,-300,000,000 two years ago to about $7,000,000,000 for the current year. But range cattle are still low in price and some sections of the wheat area, notably Minnesota, North Dakota and on West have many cases of actual distress."

The value of all the grains produced in the states of North Dakota, South Dakota, Minnesota and Montana this year is $502,000,000 and in 1922 was $542,000,000—a decrease, but not a failure.

There is already considerable diversification of crops in these states and the farmer is learning that he cannot live by wheat alone. The Agricultural Department referring to this subject in a recent bulletin says:

> "Wheat has been having a great deal of attention from the public; nevertheless it does not dominate the agricultural situation as a whole. In general conditions over the country are somewhat better this season than last. The East, the South, the Corn Belt, the Range Country, and the Pacific Coast all show improvement rather than otherwise, both in position as to debts and outlook for fall income. The Southwest has suffered from drought, as have local sections in the East. But in the main this is a pretty good crop year.
>
> "Summing up the general situation it is fair to record improvement outside the Wheat Belt. The wheat situation is not to be overlooked, however. It is an acute symptom of that general and persistent maladjustment between the returns for labor of country workers and that of urban workers. The purchasing power of farmers is still below par. From that springs a broad undercurrent of unrest which is still a factor to be reckoned with."

Out of this unrest has developed the "Farm Bloc" and the "Farmer-Labor" party; and the latter is a curious com-

bination in that the farmer wants lower costs for his labor and at the same time lower prices for the manufactured articles he buys; while labor wants lower prices for food but higher wages for work.

Farmers Must Face Same Conditions As Others.

There is some evidence to show that except for some wheat farmers and some fruit farmers—not all of them—the farmer is having much the same kind of ups and downs experienced in all other forms of human industry since Armistice Day.

The corn farmer is in a good position, so is the cotton farmer, the sugar beet producer, and the owners of hogs and cattle are in better shape. In one state, Texas, the cotton crop is estimated at 4,290,000 bales with an approximate value to the producer of nearly $652,000,000 while the wheat crop of the whole country is estimated at 785,741,000 bushels, worth approximately $725,501,000.

To help the farmer the Farm-Bloc-Farmer-Labor politicians propose to reduce railroad rates on agricultural products 25 per cent. This would bankrupt some Western roads, stop dividends on others, and do serious if not irreparable damage to all. Such a policy is not sound because the railroads must serve all the people. The revenues of the railroads should not be used to make good the losses of farmers or any class of our citizens resulting from over-production, errors of judgment, bad management, nor from any cause for which the railroads are in no way responsible. Temporarily there is an over-production of oil, why not reduce the freight rates 25 per cent. on oil until the oil business is readjusted, and so on with other commodities? Ruining the Western railroads by reducing the rates below a living basis will in the long run hurt the farmer and the whole country. He and all in the country want and must have service. Inability on the part of the railroads to provide and move promptly refrigerator cars for fruit, box cars for grain and hay, stock cars for livestock at the time when the markets are ready to buy is much more damaging to the farmer than a difference of a few cents in the railroad rates per hundred pounds.

The Chairman of the Federal Reserve Bank at Minne-

apolis in an instructive paper, "The Economic Position of Agriculture in the Northwestern Grain Raising Area," says:

> "The future of agriculture in the northwestern grain raising area has not been impaired. It has not lost an appreciable percentage of its capable men. It has been undergoing a drastic purging process involving the elimination of the unfit, the deflation of excessive land values, the collapse of credits built on an unsound basis, the wiping out of farming operations on marginal lands, and changes in the type of production and agricultural methods, which are tending toward the establishment of the business upon a sound basis.
>
> "Failures, abandonment of land, foreclosures, and other results of depression and distress in this area, have been given an emphasis out of proportion to their importance. The percentage of failure among the grain raising farmers is not greater than the percentage of failure of banks in the grain raising area, and is approximately the same as the mortality in commercial business within the same sections. The failure of those in farming looms larger only because the number is far greater than the number engaged in banking or other business activities."

The Railroads. Regulating and managing railroads by political authorities in Washington and in the various states has been a favorite pastime for many years.

The Interstate Commerce Law was passed in 1887 and there has been a constant increase in the extent and detail of regulation since then, both Federal and State. The most serious regulation began twenty years later, when the Hepburn Amendment gave the Interstate Commerce Commission power to suspend rates, thus taking from the railroads the right to make effective their prices or rates for services rendered. This has had a very serious effect on the railroad business since that time, and this amendment has made it difficult to obtain capital. The conditions thus created became so serious that the matter was laid before President Wilson in September, 1914, who sent a message to Congress December 7, 1915, which resulted in a joint resolution on July 20, 1916, under which a prolonged investigation was

made of the whole railroad situation. The war intervened before remedial legislation growing out of that investigation could be passed, but later came the Transportation Act of 1920. That law is not perfect, but it has been helpful in stabilizing the credit of the roads. It would be dangerous to the people of our country to change it hastily. Some of the roads in the East working under that Act have done fairly well. We now see the New York Central trying to obtain new capital through issuing stock—a helpful sign—when one considers that during the last 4½ years the new money put into the railroads has come, 98.75% from loans and 1.25% from the sale of stock.

In the West and the South only a few roads have made satisfactory returns. The rate of return of the roads to November 30, 1923, has been at the annual rate of:

New England Region	2.18%
Great Lakes Region	5.44
Ohio-Indiana-Allegheny	4.94
Pocahontas Region	5.72
Total Eastern Region	4.92
Southern Region	5.05
Northwestern Region	3.40
Central Western Region	4.53
Southwestern Region	3.58
Total Western Region	3.94
Total United States	4.51

—based on Property Investment Account plus material and supplies and working cash.

Railroad Returns Insufficient to Attract New Capital.

These returns are obviously not sufficient to attract partners or stockholders with the new capital necessary for expanding railroad facilities to meet the growth of the country. We cannot go on indefinitely adding to our transportation system with borrowed money.

The late Interstate Commerce Commissioner Prouty said on November 19, 1912:

> "It is coming to be apprehended that in the final analysis the public pays the bill and that it pays for us

as railroad commissioners to accord to the railroads just and fair treatment. That, I say, is not only demanded by public justice, but it is demanded by public interest.

"We can make rates reasonable, we can remove discriminations, we can put on schedules for the running of trains: all that is easy. The question is here, can you obtain under this system the new money which is necessary to develop our old railroad system and to build our new railroad systems?

"That is the crucial question. That question I have not got to deal with, but you younger gentlemen within the next twenty-five years will have it to deal with."

He was right, and one big question before us is how to get money for railroad development and expansion.

President Coolidge said in his recent message:

> "Unless the Government adheres to the rule of making a rate that will yield a fair return, it must abandon rate making altogether."

President Taft appointed a commission to investigate this subject. Arthur T. Hadley, head of the commission, in submitting the report of the commission, December 1911, said:

> "The necessary development of railroad facilities is now endangered by the reluctance of investors to purchase new issues of railroad securities in the amounts required. This reluctance is likely to continue until the American public understands the essential community of interest between shipper and investor, and the folly of attempting to protect the one by taking away the rewards of good management from the other."

It is, however, difficult to get certain Federal and State legislators of the country to realize these simple facts.

Working under the Transportation Law of 1920 the railroads are giving the best and largest quantity of service in the history of the business.

In eleven months the number of freight cars loaded was:

1920	41,344,870
1921	35,918,733
1922	39,048,387
1923	45,673,690

For the year 1923 it is estimated the number of cars loaded will be 49,980,000. This is an increase of

15.75% over 1922
26.8 % " 1921
10½ % " 1920, the

heaviest year heretofore, and 12% over 1918, when the activities due to the war were very great.

Tremendous Business Efficiently Handled.

With this very large business there has has been no car shortage—in fact, a slight car surplus. The freight rates are lower in this country than in any civilized nation, as per the following table:

United States (per ton one mile)	1.11	cents
England	4.00	"
Sweden	4.50	"
Norway	5.00	"
Brazil	6.00	"

Passenger rates for equivalent service are much lower than anywhere in Europe. President Coolidge says: "Looked at as a whole the nation is in the enjoyment of remarkable prosperity. Industry and commerce are thriving."

Why This Attack on the Railroads?

With these remarkable facts and results, whence arises this agitation to dislocate the situation and break down our marvelous transportation machine, so necessary to the present and future welfare of the country? Just now the law of 1920 is being attacked because it announces the principle that rates should be sufficient to make a fair return to which the property is entitled under the Constitution. It also provides that the authority of the Interstate Commerce Com-

mission is controlling in conflicts that may arise over rates made by states and those made by the United States. This is as it should be. We are a nation, not a confederation of states. This is the so-called "Guaranty Clause" which is no guaranty, as the results for the year show.

The clause in the law permitting consolidations of the railroads is also being criticized. This clause as drawn is rather difficult to make effective and it would be helpful to modify it so that groups of roads could consolidate, subject to the approval of the Interstate Commerce Commission, and not wait for the nation-wide plan proposed by the present law. This is a large country and large transportation units are desirable. They would produce ultimately economies in transportation and give better service to the public.

The clause of the law that disputes about labor in the railroad's business shall be laid before a Labor Board and adjudicated by it, is being criticized and attacked chiefly by those representing labor, but it is desirable to have some sort of tribunal to avoid conflicts. In the interest of all the people the strike must be eliminated from public utilities and industries supplying society with fuel and water. Public opinion will, in time, establish the principle that a man, who elects to earn his living in these callings, owes a duty to society, and to the government that protects him in his work, to give service until by some orderly method he is relieved and the work continues in the interest of the millions dependent upon continuity of service and supply of necessities.

Service from the individual citizen must be given in times of peace as well as in war. This will be accomplished within the lifetime of some of you, and Harvard men and all reasonable men can help to solve the problem.

Railroad Valuation.

Another attack is that made upon the valuation of our railroads—this total valuation is a vital factor to be considered in rate making.

What is the value of the railroads?

The so-called "Radicals" claim that the total valuation of our railroads upon which a fair return should be made is perhaps $12,000,000,000; this for the purpose of reducing

rates, and eventually the Government to buy the roads at a much reduced figure. The plan means confiscation.

Here are a few figures which laymen and Congressmen should understand:

(a) 400,000 miles of track at only $25,000 a mile (a very low estimate). The Department of Agriculture estimates that the average cost of a mile of improved highway today—which has no rails, ties, tunnels, trestles, and relatively infrequent bridges—is about $36,000.....	$10,000,000,000
(a) 69,000 locomotives at only $20,000 each. The 6,000 or more locomotives bought in the last two years have cost an average of about $60,000 each, and some have cost as much as $75,000 or $100,000.....	1,380,000,000
(a) 2,400,000 freight cars at only $1,000 each. The average cost of a freight car today is about $2,500. Many recently put in service cost $3,000, and refrigerator cars $3,500 each	2,400,000,000
(a) 57,000 passenger-train cars at only $10,000 each. All-steel passenger train cars now cost from $30,000 to $35,000 each	570,000,000
Materials and Supplies. Railroads have to keep on hand millions of tons of coal, rails, ties, spikes and all other material required in maintenance and operation.....	500,000,000
Working capital	500,000,000
50,000 Stations and Terminals, Yards, Signals, Roundhouses, Shops, Machinery, Water Supply, Power Plants, Elevators, Docks, Coal Pits, and all other items, including administration in over 1,000 cities and towns, stations and terminal facilities cost over a million dollars apiece. These facilities in a few of our larger cities would alone account for over a billion dollars a year	7,000,000,000
The above property is believed to be worth fully $10,000,000 and could not be duplicated for anywhere near that amount today.	
This totals	$22,350,000,000
—and a valuation recognizing all the elements of value assured to the ordinary property owner would be far in excess of this amount, probably.....	$30,000,000,000

(a) These are Interstate Commerce Commission figures in round numbers.

The Interstate Commerce Commission found the tentative value of the railroads on December 31, 1919, to be $18,900,000,000. This valuation was based on costs and prices up to 1914, and therefore includes no war-time inflation of values. The subsequent investment of approximately $1,984,683,000 (1923 estimated) brings the Interstate

Commerce Commission valuation for rate making purposes as of the end of this year up to $20,884,683,000.

Every thinking man should judge for himself of the fairness of the contention made by Senators La Follette, Brookhart and others that the Interstate Commerce Commission valuation should be reduced by from $7,000,000,000 to $10,000,000,000. Such a confiscation of values would be in effect a denial to the railroads of their chief means of keeping pace with the development of the country and force Government ownership of the railroads—something which the people do not want. Fair recognition of railroad property values is essential for adequate earning power and credit for further expansion in the interest of all the people.

When you realize that Life and Fire Insurance Companies and Savings Banks and eleemosynary institutions hold a very large amount of railroad bonds, that an adequate and expanding railroad system is absolutely necessary to the future growth of the country, you will appreciate how dangerous is the attack now being made on the valuation of our railroads. The railroads represent on any fair basis of value at least one-twelfth of the national wealth. To destroy that amount of the nation's property, all or in part, by adverse legislation is an economic injustice.

All thinking men should do all in their power to prevent this economic injustice in the interest of all the people of our country.

Freight Rates Reduced More Than Proposed Tax Reduction.

Finally, it is interesting to note that if the railroads of the United States had received the same average rate for freight in 1923 as in 1921, the freight bill of the country for 1923 would have been about $700,000,000 larger than in 1921. In other words, the railroads, through their efficiency and success in providing a national service of the highest character have, in spite of very high wages and high costs for fuel, materials and supplies, transported the largest business ever handled and at the same time made a saving to the freight payers, compared with the 1921 basis, of at least twice the saving in taxes proposed by the national Administration. Unfortunately, the saving has been too great; that is, the rate basis is too low to attract capital so as to prepare for the future.

Expenses and Taxes.

Out of our great prosperity, together with our easy-going methods of selecting our governmental servants, the habit of expecting the Government in some way to cure by legislation economic failures due in many cases to individual mistakes; and out of the necessity of prompt action during the war, regardless of cost, has developed a money-spending and a money-wasting habit in this country which is piling up taxes and diverting to luxuries too much capital and savings from very necessary uses.

Large Expense of Government.

It is estimated that there are about 3,366,000 persons in the country who are supported wholly or in part by the Government, receiving $3,820,000,000 per year. The following from a research report by the National Industrial Conference Board is pertinent:

> "When it is appreciated that one in every twelve persons sixteen years of age or over who was gainfully employed in 1920 is on the public payroll, the time should appear to be propitious for inquiring whether the community is receiving a full return for the outlays involved. The total amount disbursed annually on account of personal services in behalf of federal, state and local governments represented 6.5% of the entire national income in 1922 and was 46% of the amount paid out in wages by all the manufacturing plants of the country, the value of whose products exceeded $5,000 in 1921. The annual cost of salaries paid directly to active and inactive Government employees, exclusive of materials and other services purchased by public agencies and of wages paid on contract work, is $34 for every man, woman and child in this country, and $91 per person over ten years of age gainfully employed, who comprise in the last analysis the large body of taxpayers of the nation. Outlays running into stupendous figures as above indicated are worthy of careful study with a view of rigorous retrenchment in public expenditures, to elimination of waste and duplication that still exist in our public economy and to a reduction of needless functions and services that may still be found."

Consider how governmental debts of all kinds have increased since 1890. Municipal, county, state and federal debts compare as follows:

1890	$ 1,836,000,000
1902	2,880,000,000
1913	5,146,000,000
1923	32,268,000,000

But leaving out the great increase in the national debt because of the war, the increase in state and municipal debts is from $1,224,000,000 in 1890 to $10,500,000,000 in 1923.

Are We too Extravagant?

We want all kinds of luxurious county and municipal improvements—want them right away—forgetting the tax burdens and the maintenance costs that are piling up for those who come after us and which put onerous burdens on our present-day people and industry. My recent trip included part of central Oregon. In one county in the state about twice the size of Rhode Island, there are only 3,400 people, but in the desire to emulate more thickly settled communities, good roads, fine court-houses, elaborate schools, irrigation projects, a local railroad, etc., have been built so that the taxes are $345,000 a year. This is, no doubt, an extreme case, but all over the country communities and municipalities are issuing tax-free bonds and making improvements too rapidly, and the burden on individuals, agriculture and business is too heavy.

Mr. Mellon points out some of the evils of the enormous expenditures by municipalities:

> "The high rates put pressure on taxpayers to reduce their taxable income, tend to destroy individual initiative and enterprise, and seriously impede the development of productive business. Taxpayers subject to the higher rates cannot afford, for example, to invest in American railroads or industries or embark upon new enterprises in the face of taxes that will take 50 per cent or more of any return that may be realized. These taxpayers are withdrawing their capital

from productive business and investing it instead in tax-exempt securities, and adopting other lawful methods of avoiding the realization of taxable income. The result is to stop business transactions that would normally go through, and to discourage men of wealth from taking the risks which are incidental to the development of new business."

The country justly applauded the efforts of Mr. Harding to bring to a final conclusion the budget plan. It is now applauding the President and Mr. Mellon for their earnest efforts to reduce taxes by an amount estimated at $323,000,000 per year, and for rigid economy under the budget system.

Right-thinking people hope Congress will give effect to the recommendations of the President and the Secretary of the Treasury and that this good example will be followed by all states, counties, and municipalities.

We have an army of office-holders living on us, a constant elaboration of governmental machinery and an alarming increase in federal, state, county and municipal taxes.

Future Development Unlimited. There is no limit to the material development possible in the United States, Mexico, South America, China, Russia and Africa during the Twentieth Century. I have just returned from a trip of a month from New York through Minnesota, North Dakota, Montana, Idaho, Washington and Oregon. Beautiful and fertile prairies and valleys, magnificent forests, vast plains, great rivers, populous and industrious cities with churches, schools and colleges, countless towns with neat homes, unsurpassed natural scenery. Ours is the best country in the world. But all citizens, men and women, must do their part to keep it so. The educated man, the Harvard man, must take part not only in the great material development of the Twentieth Century, but must take a greater part in the moral and human work incident to governing the world aright.

The English-speaking nations should join in building foundations for peace and in the elimination of the waste of man power that comes from incessant conflict.

Harvard men, all educated men, should take a greater

part in selecting those that make, administer and interpret the laws affecting our daily lives.

All should stand strongly for the Constitution of the United States and against the pernicious doctrines and insidious work of Socialists, Communists and the Soviet sympathizers, who are not true Americans.

All should practise prudence and thrift and self denial in personal and governmental life and make good the ravages of the great war.

"Service" must be given by each one of us not only to ourselves, our families and business, but to society as a whole. We must not shrink from giving it to the best of our ability.

Each one of us can "go forth to meet the shadowy future without fear and with a brave and manly heart."

With the material, moral and human forces of the world directed aright, civilization will not go backwards but forward. Harvard men can and will do their share.